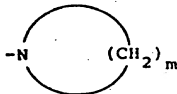


alpha to the nitrogen atom may not bear an hydroxy group, and R₃ and R₄ taken together with their associated N(itrogen) is morpholino, thiomorpholino, piperazino, 4-methyl-1-piperazino or a moiety of the formula:



wherein m is an integer from 2 to 6, inclusive; with the first proviso that the ratio of the total number of carbon atoms to the sum of the total number of oxygen atoms plus the total number of nitrogen atoms in the side chains at the 1-position and the 4-position may not exceed 4 and] with the [second] proviso that R₁ and R₂ may not both be hydrogen or alkyl; the tautomers thereof; and the pharmacologically acceptable acid-addition salts thereof.

Cancel claims 17, 20, 25, 27, 43, 44, 47, 48, 49 and 50, without prejudice or disclaimer.

REMARKS

Reconsideration and allowance of claims 1 to 16, 18, 19, 22 to 24, 26 and 28 to 33 are respectfully requested (claim 21 stands allowed) in view of the remarks that follow:

At the outset, however, it is desired to acknowledge with appreciation the courtesy of Examiners ^{Douglas} Waltz and Covington in affording applicants' attorneys the opportunity for interview on July 26th. The interview was attended by Mr. Norton S. Johnson and Dr. E. J. Frazza, of The American Cyanamid Company, and their outside counsel, Mr. Ellsworth H. Mosher.

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What follows is believed to be a fair summary of the discussion that took place at the interview, and is presented in compliance with 37 C.F.R. §1.133(b). If by any chance the Examiners should have a different recollection, it is respectfully requested that they make of record such different recollection for the future benefit of all concerned.

The allowance of species claim 21 was acknowledged with appreciation. With a view to enabling this application to be finally disposed of in as expeditious a manner as possible, it was decided to "carve out" (without prejudice or disclaimer) from the present claim structure certain subjects matter that may properly be presented in one or more divisional applications.

With that objective in view, and using the species of allowed claim 21 as the guiding principle, applicants worked backwards from that claim, so to speak, in restricting the presently claimed subject matter to what is really a rather narrow subgenus of compounds. That "subgenus", as represented by even the broadest claim then proposed, is essentially a small class of 1,4-bis (substituted-amino)-5,8-dihydroxy-anthraquinones and the corresponding leuco bases and tautomers* thereof, wherein the bis-amino substituents are mono-hydroxy-alkyls having from 2 to 4 carbon atoms.

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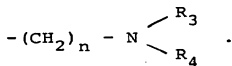
* It will be recalled that during the interview the Examiners kindly gave applicants the option of "transferring" the leuco base, etc., subject matter from claim 2 to claim 1. However, upon further reflection following the interview applicants now prefer not to exercise that option, since this would result in a reduction of the total number of claims by only one whereas more than two-fifths of the claims originally present in the case have already been cancelled.

The patent reference of record (Patent No. 3,646,072) is of no anticipatory value because no mono-hydroxy-alkyl-amino substituents are disclosed therein. This patent was among the references cited by applicants in the Amendment bearing "deposited date" of November 28, 1978.

The Chemical Abstracts reference of record was not discussed at the interview--it not having been applied--the Examiner apparently having already rightly recognized that its effective date is subsequent to applicants' parent application filing date.

It will further be recalled that during a second interview with the Examiner on August 8, 1979, a few additional changes were shown to the Examiner. These changes were the result of further conferences with the inventors subsequent to the first interview. During these discussions it developed that the inventors were of the opinion that they needed slightly additional protection in the form of retaining within the definition of R_1 and R_2 the statement that these included "alkyl having from 1 to 4 carbon atoms", as specified in the claims as originally filed. In the absence of relevant prior art, it appears that this slight departure from the agreement reached during the first interview with the Examiner was quite in order. During the second interview with the Examiner, this slight departure from the original tentative agreement was displayed to the Examiner so as to dispel any possible suggestion that applicants were arbitrarily refraining from adhering to the original tentative agreement.

The inventors however agreed that they would "give up" the definition of the moieties defined as



In addition, the deletion of the first proviso near the end of the claims 1 and 2 was also submitted to be in order as not now necessary.

The text of the still further slightly revised claims 1 and 2 exactly as indicated above was shown to the Examiner during the second interview, and it is understood that he was tentatively of the opinion that these were satisfactory.

In view of the foregoing comments and applicants' concerted effort to simplify further proceedings as much as possible, it is understood that this application is now in condition for immediate allowance and such action at an early date is earnestly solicited.

Respectfully submitted,

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